

ST. AUGUSTINE DECLINE (SAD)

C. P. Seymour

St. Augustine grass, *Stenotaphrum secundatum* (Walt.) Kuntz, is grown extensively as a lawn and turfgrass throughout the south and southeastern United States. In Florida it is the most widely used lawn and turfgrass because of its versatility. Size of planting areas ranges from lawns to pastures of 30,000 acres. The grass is dark green in color, tolerant to shade and salt spray and is adaptable to a wide range of soil types and conditions which contribute to its desirability and popularity (4). St. Augustine grass is valued in excess of \$100,000,000 in Texas (1) and in excess of \$300,000,000 in Florida (personal communication).

In 1967 a mosaic disease of St. Augustine was reported in the lower Rio Grande valley of Texas (3). Recent studies characterized St. Augustine decline (SAD) as being a new virus disease causing a chlorotic mottling of blades and is mechanically transmitted. St. Augustine decline (SAD) has become the common name for this disease because of the decline observed over a period of 1 to 3 years in St. Augustine lawns in south Texas resulting in losses ranging from a trace to 100% (1). SAD is not known to exist in Florida at this time and has only been reported from Texas. It is known to occur at Orange, Texas, adjacent to the Louisiana line.

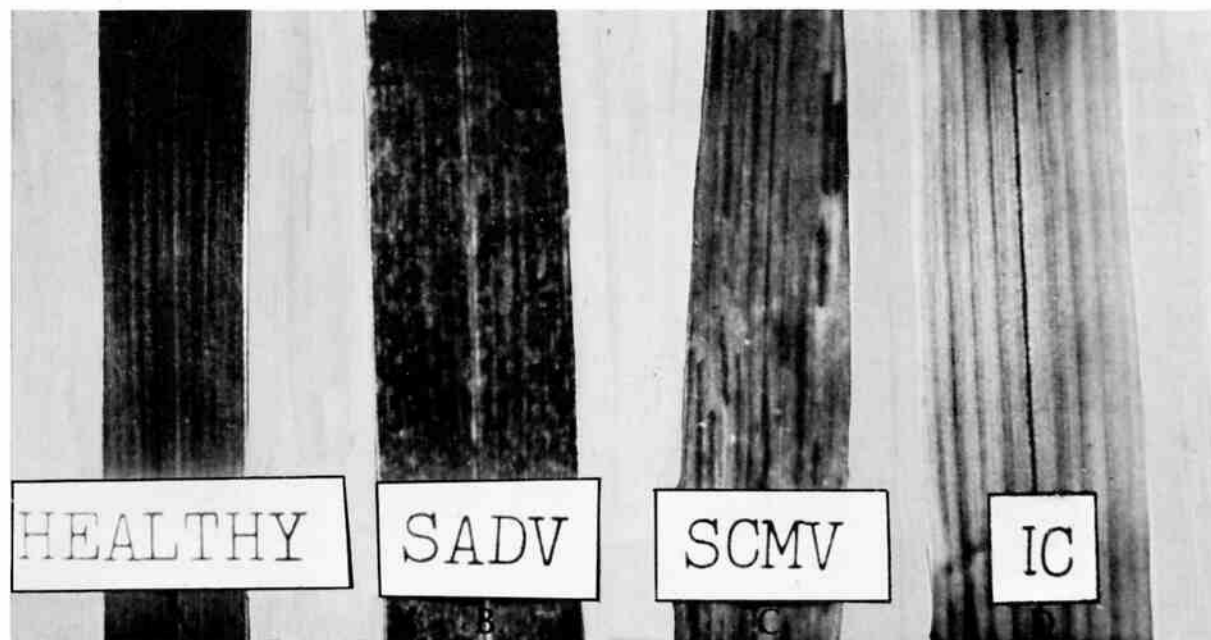


Fig. 1. Leaf symptoms of St. Augustine problems: A) healthy; B) SADV showing light chlorotic stippling; C) sugarcane mosaic (SCMV) exhibiting intermittent broken line pattern; D) general or veinal chlorosis caused by iron deficiency.

SYMPTOMS. First symptoms appear as a light stipple mottling in the leaf blade (Fig. 1B). In a few months to a year the blade becomes generally chlorotic, followed by shortening of internodes and necrosis within 1 to 3 years (1). Other St. Augustine grass problems in Florida that might be confused with SAD but can be distinguished are sugarcane mosaic and iron deficiency (Fig. 1C-D). Zinc or iron deficiencies both cause a general or veinal chlorosis of the blade. Sugar-cane mosaic is known to be in St. Augustine grass in Florida. Symptoms are expressed as a mosaic consisting of intermittent broken line patterns.

HOST RANGE. St. Augustine decline (SAD) virus infects proso millet (*Panicum miliaceum* L.), and this host is used as an indicator plant to test for the presence of the virus. Pearl millet (*Pennisetum glaucum* R. Br.) and German foxtail millet (*Setaria italica* Beauv.) are also hosts (2). Cross inoculation studies with maize dwarf, sugarcane mosaic and SAD showed no relationship among these viruses.

TRANSMISSION AND DISSEMINATION. SAD is mechanically transmitted and limited spread caused by mowers has been observed in lawns. From the rate of spread and pattern it seems likely that an insect vector may be involved. Both short and long distance dissemination have been demonstrated by the movement of infected sod and stolons.

CONTROL. Plant only propagative parts of St. Augustine grass that appear to be free of SAD. Research has shown that some lines of St. Augustine may be resistant to SAD. If an insect vector is found, a spray program may prove to be helpful.

Literature Cited

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2. Todd, E. H. 1964. Sugarcane mosaic on St. Augustine grass in Florida. Plant Disease Reptr. 48:442.
3. Toler, R. W., N. L. McCoy and J. Amador. 1969. A new mosaic disease of St. Augustine grass. Phytopathology 59:118 (Abstr.)
4. Wilson, F. L. 1961. St. Augustine lawn grasses. Univ. of Florida Agr. Ext. Serv. Circ. 217. 15 p.